

## Australia's APPF strives to strengthen National UAV phenotyping capability

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Australian Plant Phenomics Facility's (APPF) national phenotyping capability strengthens with the recent delivery of one of the most sophisticated UAV phenotyping sensor packages ever deployed in Australia. The initiative will strengthen the capabilities of APPF's network.

The new drones and GRYFN Gobi sensor package will allow phenotyping of crop traits at high speed and with greater precision than currently possible. This sophisticated multimodal package combines RGB, hyperspectral and LiDAR sensors with a world leading global positioning system to generate precisely aligned data from the three sensors. GRYFN provides an integrated software tool for processing these data streams against a common timeline.

Combined with work done in APPF's network of facilities, the aim is to allow Australian plant scientists faster delivery of new insights and crop improvements for the farming community.

APPF team members from across Australia's national network of plant phenotyping nodes gathered in Adelaide in mid May for a week of training on the new drone platform, including detailed discussion of topics from planning flight profiles to collecting and processing data.

GRYFN CEO Matt Bechdol, Director of Solutions Evan Flatt and UAS Pilot and Data Analyst Ryan Riley travelled to Adelaide from their base in Indiana, USA, to provide their insights and expertise on implementing the sensor and data processing packages.

Training on the drone operating rules for Australia and conducting safe flight operations was provided by the University of Adelaide Unmanned Research Aircraft Facility (URAF), including URAF Director Molly Hennekam, Lead Data Analyst, Pilot and Instructor Dillon Campbell, and Senior Maintenance and Compliance Officer Steve Andriolo. Along with the classroom-style technical training and hands-on flying experience at Waite Oval, the course participants were able to use their time together to socialise, compare experiences and local issues, and strengthen the interpersonal bonds that connect our infrastructure network.